

Recombinant Human SGK1, GST-tagged

Cat. No. SGK1-644H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Human Serum/Glucocorticoid Regulated Kinase 1 was expressed in *E. coli*. It was fused with a GST tag at the N-terminus. This protein is truncated by 60 amino acids at the N-terminus to improve stability. This protein has an apparent molecular weight of 73 kDa.

Species Human

Source E.coli

Description SGK1 is a member of the serum- and glucocorticoid-induced protein kinase family. SGK1 is activated in vitro by 3-phosphoinositide dependent protein kinase-1 (PDK1) and in vivo in response to signals that activate phosphatidylinositol (PI) 3-kinase (1). SGK1, mRNA is expressed in all tissues and the level of SGK1 mRNA is increased by stimulation with serum or dexamethasone. SGK1 promotes cell survival by phosphorylating and inactivating FKHL1. SGK and Akt display differences with respect to the efficacy with which they phosphorylate the three regulatory sites on FKHL1. While both kinases can phosphorylate Thr-32, SGK1 displays a marked preference for Ser-315 whereas Akt favors Ser-253. These findings suggest that SGK1 and Akt may coordinately regulate the function of FKHL1 by phosphorylating this transcription factor at distinct sites. Like PKB, SGK1 preferentially phosphorylates Ser and Thr residues that lie in Arg-Xaa-Arg-Xaa-Xaa-Ser/Thr motifs. The SGK1 gene has recently been identified as an important aldosterone-induced protein kinase that mediates trafficking of the renal epithelial Na(+) channel (ENaC) to the cell membrane. Thus, SGK1 is an appealing candidate for blood pressure regulation and

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possibly essential hypertension.

Activity Assay

Kinase activity is measured as the molar amount of phosphate incorporated into the Akt/SGK substrate peptide (RPRAATF), per minute per mg protein at 30°C using a final concentration of 50 µM [³²P] ATP.

Purity

This protein is >90% pure as determined by SDS-PAGE Analysis.

Format

Recombinant human SGK-1 protein in 50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol.

Concentration

0.1 mg/mL.

Storage & Shipping

Store frozen product at or below -70°C. For optimal storage, aliquot to smaller portions and store at -70°C. Avoid repeated freeze/thaw cycles. For maximum product recovery, after thawing, centrifuge the product vial before removing cap. Shipped on dry ice.

Application

Kinase Assay .

GENE INFORMATION

Gene Name

[SGK1 serum/glucocorticoid regulated kinase 1 \[Homo sapiens \]](#)

Synonyms

SGK1; serum/glucocorticoid regulated kinase 1; SGK; serine/threonine protein kinase SGK; EC 2.7.11.1; serum/glucocorticoid regulated kinase; OTTHUMP00000017247; Serum/glucocorticoid-regulated kinase 1; Serum/glucocorticoid-regulated kinase 1

Gene ID

[6446](#)

mRNA Refseq

[NM_001143676](#)

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Protein Refseq	NP_001137148
MIM	602958
UniProt ID	O00141
Chromosome Location	6q23
Function	ATP binding; nucleotide binding; protein binding; protein serine/threonine kinase activity; transferase activity

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